

Chapter 5 Practice Test (2022)

Date _____ Period _____

INSTRUCTIONS: CLEARLY SHOW WORK - 6 points each

Write the point-slope equation of the line through the given point with the given slope.

1) through: $(2, 4)$, slope $= \frac{4}{3}$

$$y - 4 = \frac{4}{3}(x - 2)$$

2) through: $(-2, -4)$, slope $= -\frac{1}{2}$

$$y + 4 = -\frac{1}{2}(x + 2)$$

From the point slope equation identify the slope ($m =$) and point ($_ , _$).

3) $y - 2 = -\frac{3}{5}(x - 5)$

$$m = -\frac{3}{5}$$

$$p = (5, 2)$$

4) $y + 4 = \frac{1}{2}(x + 4)$

$$m = \frac{1}{2}$$

$$p = (-4, -4)$$

Write the point-slope form of the equation of the line through the given points (use 1st point for your point-slope equation).

5) through: $(5, -2)$ and $(-5, 4)$

$$m = \frac{4 - (-2)}{-5 - 5} = \frac{6}{-10}$$

$$m = -\frac{3}{5}$$

$$y + 2 = -\frac{3}{5}(x - 5)$$

6) through: $(-4, -2)$ and $(3, -3)$

$$m = \frac{-3 - (-2)}{3 - (-4)} = \frac{-1}{7}$$

$$m = -\frac{1}{7}$$

$$y + 2 = -\frac{1}{7}(x + 4)$$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

7) through: $(5, -4)$, slope $= -\frac{6}{5}$

P/s $y + 4 = -\frac{6}{5}(x - 5)$

$$\begin{array}{rcl} y + 4 & = & -\frac{6}{5}x + 6 \\ -4 & & -4 \\ \hline \end{array}$$

S/I $\boxed{y = -\frac{6}{5}x + 2}$

8) through: $(3, -4)$, slope $= -2$

P/s $y + 4 = -2(x - 3)$

$$\begin{array}{rcl} y + 4 & = & -2x + 6 \\ -4 & & -4 \\ \hline \end{array}$$

S/I $\boxed{y = -2x + 2}$

Write the slope-intercept form of the equation of the line through the given points.

9) through: $(2, -5)$ and $(0, -1)$

$$m = \frac{-1 + 5}{0 - 2} = \frac{4}{-2}$$

$$\boxed{m = -2}$$

$$\boxed{b = -1}$$

S/I $\boxed{y = -2x - 1}$

10) through: $(1, -4)$ and $(2, 0)$

$$m = \frac{0 + 4}{2 - 1} = \frac{4}{1}$$

$$\boxed{m = 4}$$

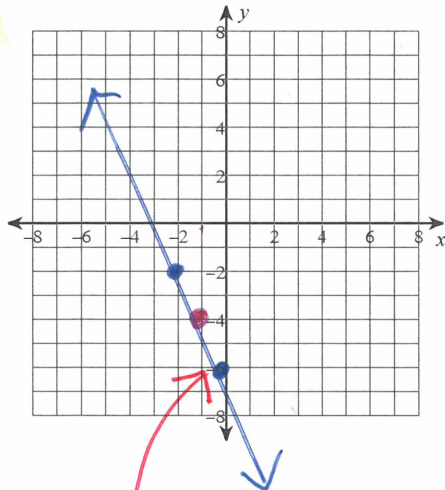
P/s $y - 0 = 4(x - 2)$

S/I $\boxed{y = 4x - 8}$

Use the point-slope equation to graph the line (create mark 3 points on the graph);
Provide the (1) given point, (2) slope and (3) from the graph identify the y-intercept (with the correct variable names)

11) $y + 4 = -2(x + 1)$

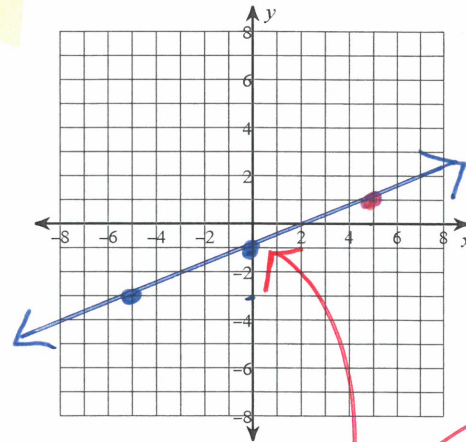
$m = -2$
 $p = (-1, -4)$



$B = -6$

12) $y - 1 = \frac{2}{5}(x - 5)$

$m = \frac{2}{5}$
 $p = (5, 1)$



$B = -1$

Write the **POINT-SLOPE** form of the equation of the line described.

15) through: $(-2, 5)$, parallel to $y = -\frac{5}{2}x - 5$

$// m = -5/2$

P/S $y - 5 = -\frac{5}{2}(x + 2)$

16) through: $(4, -3)$, parallel to $y = -\frac{1}{4}x + 3$

$// m = -\frac{1}{4}$

P/S $y + 3 = -\frac{1}{4}(x - 4)$

17) through: $(-2, -3)$, perp. to $y = 2x - 4$

$\perp m = -\frac{1}{2}$

P/S $y + 3 = -\frac{1}{2}(x + 2)$

18) through: $(1, -4)$, perp. to $y = \frac{5}{8}x + 2$

$\perp m = -8/5$

P/S $y + 4 = -\frac{8}{5}(x - 1)$

Write the **SLOPE-INTERCEPT** form of the equation of the line described.

19) through: $(0, -5)$, parallel to $y = -\frac{7}{3}x + 4$

$// m = -7/3$

$b = -5$

S/I $y = -\frac{7}{3}x - 5$

20) through: $(5, 3)$, parallel to $y = 4x + 3$

$// m = 4$

P/S $y - 3 = 4(x - 5)$

$y - 3 = 4x - 20$
 $+3 \quad +3$

S/I $y = 4x - 17$

21) through: $(-1, -5)$, perp. to $y = \frac{1}{4}x - 2$

$\perp m = -4$

P/S $y + 5 = -4(x + 1)$

$y + 5 = -4x - 4$
 $-5 \quad -5$

S/I $y = -4x - 9$

22) through: $(3, 5)$, perp. to $y = -\frac{3}{10}x + 5$

$\perp m = \frac{10}{3}$

P/S $y - 5 = \frac{10}{3}(x - 3)$

$y - 5 = \frac{10}{3}x - 10$
 $+5 \quad +5$

S/I $y = \frac{10}{3}x - 5$